400237

December 31, 1958

Dr. John N. Wolfe, Chief
Division of Biology and Medicine
United States Atomic Energy Commission
Washington 25, D. C.

Dear John:

Rather than send the information about the Rongelap fish in a TWX we thought there would be less chance for error by calling you directly. For your record the information that was dictated to Patt by telephone on December 31 is as follows:

The average gross beta values for Rongelap fish in terms of microcuries per kilogram of wet tissue are as follows:

1. March 1958, Kabelle Island reef fish

   muscle - 0.026
   whole fish - ~ 0.10

2. March 1958, Rongelap Island reef fish

   muscle - 0.006
   whole fish - ~ 0.010

3. August 1958, Rongelap Island reef fish -(average maximum value)

   muscle - 0.005

   (This is an average of a group of fish for which the values from earlier collections have been a maximum).

4. Current average values are as low as or lower than values from any of the previous collections.

Isotopic composition of samples:

1. The estimated amount of K^{40} in muscle is approximately .003 μc/kg.

2. Zn^{65} is the principal gamma emitter in fish muscle. Maximum value from the August 1958 collection is 0.2 μc/kg.

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3. Traces of Co^{60} are also present.

4. The only other isotope expected in measurable amounts in fish muscle would be Fe^{55}.

5. Sr^{90} has not been found in fish muscle from samples collected in 1956 or 1957.

Also, while talking to Patt I discussed the next visit to Washington. Subject to your approval and convenience with your schedule, I shall plan on being at Germantown on January 14, 15 and 16 and will proceed with travel arrangements for this schedule unless I hear from you to the contrary.

The people concerned with the Rongelap program are meeting on Friday, January 2nd. After review of the accomplishments of the program a list of possible papers for presentation at the Montreal meeting will be promptly submitted for your selection.

Also, a draft of a program for marine biology and oceanography for the Alaska Harbor Project will be submitted prior to the ACBM meeting on January 9 and 10.

Best wishes for the New Year.

Sincerely yours,

Allyn H. Seymour
Assistant Director

AHS:mb

AVERAGE GROSS BETA ACTIVITY IN RONGELAP FISH MUSCLE COLLECTED AUGUST 1958

	Island								
	Rongelap			Eniaetok			Kabelle		
Family	Av μc/kg wet	No.**	Range	Av μc/kg wet	No.**	Range	Av μc/kg wet	No.**	Range
Acanthuridae surgeonfish	.0061	(13)	.002-.008	.0056	(3)	.004-.008			
Apogonidae cardinalfish	.003	(1)					.0006	(1)	
Balistidae triggerfish	.005	(1)							
Belonidae needlefish							.004	(1)	
Blennidae blennies	.0023	(3)	.002-.003				.010	(1)	
Bothidae sole	.003	(1)							
Carangidae jacks	.017	(1)		.011	(2)	.006-.016	.008	(1)	
Carcharinidae sharks	.0035	(2)	.003-.004				.004	(1)	
Chaetodontidae butterflyfish	.003	(3)	.002-.004						
Dulidae tide poolfish	.004	(1)					.079	(1)	
Fistularidae cornetfish							.004	(1)	
Sphyraenidae barracudas	.006	(3)	.006-.006				.0055	(2)	.005-.006

** pooled samples, containing 1 to 6 specimens.

Note: The correction factors were based on K^{40}. The use of correction factors based on Zn^{65} would elevate these values considerably. Determination of Zn^{65} levels are in progress.

Family	Rongelap Av µc/kg wet	** No.	Range	Eniaetok Av µc/kg wet	** No.	Range	Kabelle Av µc/kg wet	** No.	Range
Gobiidae gobies							.003	(1)	
Holocentridae squirrelfish	.0037	(6)	.002-.006	.004	(1)		.0045	(2)	.001-.008
Lutianidae snappers	.004	(7)	.003-.006	.005	(4)	.004-.006	.0048	(9)	.003-.009
Mugilidae mullets	.006	(1)					.012	(1)	
Mullidae goatfish	.0093	(3)	.006-.015	.006	(3)	.004-.010	.012	(2)	.006-.018
Muraenidae eels	.002	(1)					.023	(1)	
Pomacentridae damselfish	.0025	(6)	.001-.004	.002	(1)		.008	(1)	
Scaridae parrotfish	.0035	(4)	.002-.005				.016	(2)	.006-.026
Scombridae tunas and mackerals				.0114	(5)	.005-.023	.005	(1)	
Serranidae groupers	.0036	(11)	.001-.009				.0044	(8)	.002-.006
Siganidae rabbitfish	.012	(1)		.003	(1)				
Tetradontidae puffers	.004	(1)		.008	(1)				
Zanclidae moorish idols	.004	(1)							

Note: The correction factors were based on K^{40}. The use of correction factors based on Zn^{65} would elevate these values considerably. Determination of Zn^{65} levels are in progress.

** pooled samples, containing 1 to 6 specimens.

collected at Rongelap Atoll in August 1958,

Table 3. Total gamma activity in fish tissues, expressed as c/m/g dry weight.

Family and Collection locale	TISSUE					
	Bone	Muscle	Liver	Gill	Gonad	Stomach
Acanthuridae						
Rongelap I.	0	0	114	0	0	37
Eniaetok I.	0	0	16	0	-	34
Blennidae, Gobiidae, Duhlidae Muraenidae, and Mugilidae						
Rongelap I.	0	0	0	0	0	15
Kabelle I.	0	7	63	48	219	84
Carcharinidae						
Rongelap I.	0	0	2	6	1	21
Kabelle I.	0	0	3	0	0	19
Chaetodontidae, Pomacentridae and Zanclidae						
Rongelap I.	0	0	20	0	14	37
Kabelle I.	0	0	-	-	0	58
Eniaetok I.	0	0	0	0	-	52
Carangidae						
Rongelap I.	1014	64	2023	1348	1208	547
Kabelle I.	46	16	395	336	--	876
Eniaetok I.	0	45	151	24	190	42
Belonidae and Fistularidae						
Kabelle I.	31	5	104	0	122	53

Table 3. - continued

Family and Collection locale	TISSUE					
	Bone	Muscle	Liver	Gill	Gonad	Stomach
Holocentridae						
Rongelap I.	0	0	893	0	--	72
Kabelle I.	0	0	0	0	--	100
Eniaetok I.	0	0	-	0	--	0
Lutjanidae						
Rongelap I.	0	0	67	0	50	38
Kabelle I.	11	0	620	24	47	29
Eniaetok I.	0	0	0	0	--	26
Mullidae						
Rongelap I.	153	5	538	245	--	614
Kabelle I.	540	52	204	383	--	752
Eniaetok I.	239	3	394	242	--	847
Scaridae						
Rongelap I.	0	0	0	0	5	15
Kabelle I.	22	7	222	448	-	119
Scombridae						
Kabelle I.	27	0	-	0	81	37
Eniaetok I.	36	6	72	43	74	349
Serranidae						
Rongelap I.	0	0	225	3	-	50
Kabelle I.	0	0	639	0	-	19
Siganidae, Tetradontidae, Balistidae, and Bothidae						
Rongelap I.	388	4	73	643	-	50
Eniaetok I.	0	0	37	9	36	24
Sphyraenidae						